

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: Shigeru KAWAHARA, et al.

SERIAL NO: 10/706,083

GAU: 1621

FILED: November 13, 2003

EXAMINER: Puttlitz, K.J.

FOR: NOVEL INTERMEDIATE FOR SWEETENER WITH HIGH SWEETNESS AND PROCESS FOR PRODUCING THE SAME

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97**

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

**RECEIVED**

OCT 04 2004

**OFFICE OF PETITIONS**

SIR:

Applicant(s) wish to disclose the following information.

**REFERENCES**

- ☒ The applicant(s) wish to make of record the references cited on the attached Supplementary European Search Report and listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

**RELATED CASES**

- ☐ Attached is a list of applicant's pending application(s), published application(s) or issued patent(s) which may be related to the present application. In accordance with the waiver of 37 CFR 1.98 dated September 21, 2004, copies of the cited pending applications are not provided. Cited published and/or issued patents, if any, are listed on the attached PTO form 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

**CERTIFICATION**

- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

**DEPOSIT ACCOUNT**

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.  
Norman F. Oblon

  
\_\_\_\_\_  
Vincent K. Shier, Ph.D.

Registration No. 50,552

Customer Number

**22850**

Tel. (703) 413-3000  
Fax. (703) 413-2220  
(OSMMN 05/03)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Shigeru KAWAHARA, et al.

SERIAL NO: 10/706,083

GAU: 1621

FILED: November 13, 2003

EXAMINER: Puttlitz, K.J.

FOR: NOVEL INTERMEDIATE FOR SWEETENER WITH HIGH SWEETNESS AND PROCESS FOR PRODUCING THE SAME

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

RECEIVED

OCT 04 2004

SIR:

Applicant(s) wish to disclose the following information.

OFFICE OF PETITIONS

REFERENCES

- ☒ The applicant(s) wish to make of record the references cited on the attached Supplementary European Search Report and listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s), published application(s) or issued patent(s) which may be related to the present application. In accordance with the waiver of 37 CFR 1.98 dated September 21, 2004, copies of the cited pending applications are not provided. Cited published and/or issued patents, if any, are listed on the attached PTO form 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION


- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.  
Norman F. Oblon



Vincent K. Shier, Ph.D.  
Registration No. 50,552

Customer Number

22850

Tel. (703) 413-3000  
Fax. (703) 413-2220  
(OSMMN 05/03)

Form PTO 1449  
(Modified)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

245259US0DIV

SERIAL NO.

10/706,083

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Shigeru KAWAHARA, et al.

FILING DATE

November 13, 2003

GROUP

1621

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

RECEIVED

OCT 04 2004

OFFICE OF PETITIONS

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AO					
	AP					
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	T.W. GREENE, et al., "PROTECTIVE GROUPS IN ORGANIC SYNTHESIS", New York, Wiley & Sons, 1991, pp. 168-170, XP-002089517				
	AX					
	AY					
	AZ				<input type="checkbox"/> Additional References sheet(s) attached	

Examiner

Date Considered

\*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



P.B.5818 - Patentlaan 2  
2280 HV Rijswijk (ZH)  
☎ +31 70 340 2040  
TX 31651 epo nl  
FAX +31 70 340 3018

Europäisches  
Patentamt

Zweigstelle  
in Den Haag  
Recherchen-  
abteilung

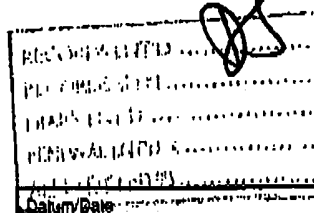
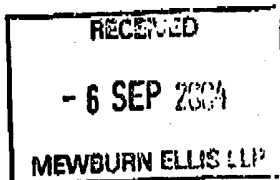
European  
Patent Office

Branch of  
The Hague  
Search  
Division

Office européen  
des brevets

Département à  
La Haye  
Division de la  
recherche

Nicholls, Kathryn Margaret  
Mewburn Ellis LLP  
York House  
23 Kingsway  
London WC2B 6HP  
GRANDE BRETAGNE



01.09.2004

Zeichen/Ref. No. <b>KMN/FP6050108</b>	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. <b>00974890.6</b>
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire <b>Ajinomoto Co., Inc.</b>	

## COMMUNICATION

The European Patent Office herewith transmits

- ☐ the European search report
- ☐ the declaration under Rule 45 EPC
- ☐ the partial European search report under Rule 45 EPC
- ☒ the supplementary European search report concerning the international application under Article 157(2) EPC relating to the above-mentioned European patent application. Copies of the documents cited in the search report are enclosed.

The following specifications given by the applicant have been approved by the Search Division :

- ☐ Abstract ☐ Title ☐ Figure
- ☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.
- ☐ The following figure will be published with the abstract, since the Search Division considers that it better characterises the invention than the one indicated by the applicant.

Figure:

- ☒ Additional copy(copies) of the documents cited in the European search report.

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.



EPO Form 1507 02.93




European Patent  
Office

**SUPPLEMENTARY  
EUROPEAN SEARCH REPORT**

Application Number  
**EP 00 97 4890**

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (InCl.7)
Y,D	WINSTEIN S ET AL: "ARYL PARTICIPATION IN THE SOLVOLYSIS OF SOME GEM-DIMETHYL-SUBSTITUTED 4-ARYL-1-ALKYL P-BROMOBENZENESULFONATES" JOURNAL OF ORGANIC CHEMISTRY, AMERICAN CHEMICAL SOCIETY, EASTON, US, vol. 37, no. 6, 1972, pages 825-836, XP002935130 ISSN: 0022-3263 * page 831, column 1, lines 12-26 * * page 832, column 1, lines 24-40 * -----	1-19	C07K5/06 C07C45/41 C07C47/277 C07C51/367 C07C303/30
Y	US 5 480 668 A (NOFRE CLAUDE ET AL) 2 January 1996 (1996-01-02) * column 6, lines 27-54; claims; table 1 * -----	1-19	
Y	NAGAYAMA K ET AL: "DIRECT HYDROGENATION OF CARBOXYLIC ACIDS TO CORRESPONDING ALDEHYDESCATALYZED BY PALLADIUM COMPLEXES IN THE PRESENCE OF PIVALIC ANHYDRIDE" CHEMISTRY LETTERS, CHEMICAL SOCIETY OF JAPAN, TOKYO, JP, no. 11, 1998, pages 1143-1144, XP000999904 ISSN: 0366-7022 * the whole document * -----	1-13	
A	ARNOLDI A ET AL: "SYNTHESIS AND STRUCTURE-ACTIVITY RELATIONSHIPS OF SWEET 2-BENZOYLBENZOIC ACID DERIVATIVES" JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, US, vol. 45, no. 6, 1 June 1997 (1997-06-01), pages 2047-2054, XP000655884 ISSN: 0021-8561 * page 2048, columns 1-2 * scheme 1 * page 2050, column 1 * -----  -/-	1-13	
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search <b>Munich</b>		Date of completion of the search <b>18 August 2004</b>	Examiner <b>Kiernan, A</b>
<b>CATEGORY OF CITED DOCUMENTS</b>			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons  A : member of the same patent family, corresponding document	

6  
EPO FORM 1503 03.02 (p04004)



European Patent  
Office

**SUPPLEMENTARY  
EUROPEAN SEARCH REPORT**

Application Number  
**EP 00 97 4890**

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D, Y	GREENE T W ET AL: "PROTECTIVE GROUPS IN ORGANIC SYNTHESIS" PROTECTIVE GROUPS IN ORGANIC SYNTHESIS, NEW YORK, WILEY & SONS, US, 1991, pages 168-170, XP002089517 * the whole document * -----	1-19	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search <b>Munich</b>		Date of completion of the search <b>18 August 2004</b>	Examiner <b>Kiernan, A</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-13, 16-19

Sulfonyl-protected 3-hydroxy-4-methoxyphenyl-3-methylbutyl  
carboxylic acid, a process for its preparation and its use  
for the synthesis of  
N-'N'-3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl-L-alpha-as  
partyl-L-phenylalanine 1-methyl ester  
---

2. claims: 14, 15

Benzene derivatives of formula (3)  
---



**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

**EP 00 97 4890**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

**18-08-2004**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5480668	A	02-01-1996	FR 2697844 A1 13-05-1994
			AT 138935 T 15-06-1996
			AU 664663 B2 23-11-1995
			AU 5468194 A 08-06-1994
			BG 61609 B1 30-01-1998
			BG 99299 A 29-09-1995
			CA 2139233 A1 26-05-1994
			CN 1090571 A ,B 10-08-1994
			CZ 9403319 A3 18-10-1995
			DE 69303032 D1 11-07-1996
			DE 69303032 T2 02-10-1996
			DK 669935 T3 01-07-1996
			EE 3194 B1 15-06-1999
			EP 0669935 A1 06-09-1995
			ES 2091114 T3 16-10-1996
			FI 945451 A 22-12-1994
			WO 9411391 A1 26-05-1994
			GR 3020164 T3 30-09-1996
			HU 72192 A2 28-03-1996
			IL 107551 A 16-08-1998
			JP 2818032 B2 30-10-1998
			JP 8503206 T 09-04-1996
			KR 254297 B1 01-05-2000
			LT 1457 A ,B 15-06-1994
			MD 960256 A 31-03-1998
			NO 945090 A 30-12-1994
			NZ 257870 A 26-03-1996
			PL 306841 A1 18-04-1995
			RO 112621 B1 28-11-1997
			RU 2107071 C1 20-03-1998
			SK 158694 A3 10-05-1995
			ZA 9308430 A 13-06-1994